At page 1, lines between the title and "Field of the Invention", please insert the following new section:

--CROSS REFERENCE TO RELATED APPLICATIONS

This application is a continuation of U.S. nonprovisional application 09/307,230 filed May 7, 1999. This application is also related to U.S. Serial No. 09/884,520, filed June 18, 2001, and to U.S. Serial No. 09/884,212, filed June 18, 2001.--.

At page 1, line 23 – page 2, line 12, please delete the existing paragraph, and insert therefor:

--Accordingly, it would be highly desirable to develop techniques for preventing VT from occurring, particularly phase two VT in a patient having an MI and, if VT does occur, for preventing the VT from transitioning to a VF. One technique employed in an attempt to prevent VT from occurring is overdrive pacing of the heart. With overdrive pacing, the heart is paced at a rate higher than its intrinsic pacing rate. If VT nevertheless occurs, one or more electrical cardioversion pulses are typically applied to the heart in an attempt to terminate the VT so that the VT does not transition to VF. If VF nevertheless occurs, one or more stronger electrical defibrillation pulses are typically applied to the heart in an attempt to terminate the VF thereby preventing SCD. Hence, for patients that have an MI, particularly a significant one, an implantable cardioverter-defibrillator (ICD) is often implanted into the patient. The ICD includes components for overdrive pacing the heart and for detecting VT or VF and for administering the appropriate therapy. However, the need to frequently overdrive pace the heart and to deliver cardioversion or defibrillation pulses can quickly deplete the battery power of the ICD requiring frequent replacement. Also, the therapies administered by the ICD, particularly the application of cardioversion pulses, may be extremely painful to the patient. Moreover, in some cases, the conventional therapy provided by the ICD is not sufficient to prevent or terminate VF and, accordingly, the patient succumbs to SCD.--.

At page 5, lines 5-23, in the Summary of the Invention, please delete the existing paragraph beginning with "by creating an AV block and an MI within the heart of an adult canine test subject . . ." and replace it with the following paragraph:

--By creating an AV block and an MI within the heart of an adult canine test subject, then stimulating nerve growth within the left stellate ganglion of the subject using NGF, it has been found that there is a significant increase in the likelihood of SCD arising from phase two ventricular arrhythmias. It is believed that the SCD of the test subject arises in a manner very similar to circumstances wherein SCD occurs in human patients subject to a previous MI. Thus, the method permits SCD to be induced within test animals in a manner facilitating the collection of data pertinent to conditions within the heart arising prior to SCD and for testing techniques intended to prevent SCD, particularly techniques intended to prevent phase two VT and VF within patients subject to a previous MI. Hence, other aspects of the invention are directed to methods for collecting data pertinent to predictors of arrhythmias, particularly phase two VT and VF in patients subject to a previous MI, to facilitate development of techniques for predicting and preventing the arrhythmias. Still other aspects of the invention are directed to methods for testing techniques intended to predict or prevent the onset of arrhythmias, again particularly phase two VT and VF in patients subject to a previous MI. An animal model system for artificially inducing a heart arrythmia is also provided. Still other objects, advantages and features of the invention will be apparent from the detailed descriptions which follow in combination with the attached drawings.--.

At page 10, lines 3-21, please delete the paragraph, and insert the following paragraph therefor:

--Whether or not SCD ultimately occurs, signals recorded during step 114 may be analyzed for the purpose of identifying any unique pattems within the heart signals which may serve as predictors for subsequent episodes of ventricular arrhythmia. For example, analysis of heart signals of a large number of animal test subjects wherein phase two VT occurs may reveal a correlation between certain features of the pre-VT heart signals and the subsequent occurrence of VT. If so, an ICD can be programmed to predict imminent VT in human patients based upon a detection of similar features of the heart signal and to apply preventative therapy, such as overdrive pacing, only if VT is predicted. Hence, unnecessary

overdrive pacing is avoided. As another example, analysis of heart signals of a large number of animal test subjects wherein a VT to VF transition occurs may reveal a correlation between certain features of the pre-transition heart signals and the subsequent transition from VT to VF. If so, an ICD can be programmed to predict the imminent transition to VF in human patients based upon a detection of similar features of the pre-transition heart signal and to apply preventative therapy, such as aggressive cardioversion therapy, only if the transition to VF is expected. Hence, unnecessary cardioversion therapy is avoided. By using these and other predictive techniques, the lifetime of the power supply of the ICD can be extended and pain or discomfort associated with unnecessary therapy can be avoided.--.

At page 11, lines 19-29, please delete the paragraph and insert the following paragraph therefor:

--What has been described are various techniques for increasing the likelihood of ventricular arrhythmias in animal test subjects, particularly phase two VT arrhythmias of the type that often trigger VF and consequently SCD. Aspects of the techniques have been described primarily with reference to the flowchart of FIG. 2. Each block within the flowchart illustrates both a method step and an apparatus element for performing the method step. Specific method steps may be performed, as described above, using an ICD, osmotic pump, ablation catheter, coronary artery ligature or other suitable devices. Many of the method steps need not necessarily be performed in the order illustrated. For example, the order in which the AV block and MI are created can be reversed. As another example, the order in which the osmotic pump and ICD are implanted can also be reversed.--.

In the Abstract, beginning at page 14, line 1, please delete the section in its entirety, and insert therefor the following:

--ABSTRACT OF THE DISCLOSURE

A method is described for increasing the likelihood of the occurrence of an arrhythmia in a heart, particularly a ventricular arrhythmia of the type leading to Sudden Cardiac Death. The method includes the steps of creating an atrioventricular block in the heart of an animal test subject, inducing a myocardial infarction in the heart of the test subject, and then stimulating myocardial hyperinnervation the test subject. In a specific example described herein, the atrioventricular block is created by ablating the atrioventricular node of the heart using an ablation catheter. The myocardial infarction is induced by ligating the left anterior descending portion of the coronary artery. Myocardial hyperinnervation is stimulated by application of Nerve Growth Factor or other neurotrophic vectors to the left stellate ganglion. The test subject is an adult canine. By creating an atrioventricular block and a myocardial infarction within the heart of an adult canine test subject, then stimulating nerve growth within the left stellate ganglion of the subject using Nerve Growth Factor, it has been found that there is a significant increase in the likelihood of Sudden Cardiac Death arising from ventricular arrhythmias. It is believed that the Sudden Cardiac Death of the test subject arises in a manner very similar to circumstances wherein Sudden Cardiac Death occurs in human patients subject to a previous myocardial infarction, thus, an animal model system for artificially inducing a heart arrhythmia is also disclosed. Thus, the method and animal model system facilitate the collection of data pertinent to conditions within the heart arising prior to Sudden Cardiac Death and for developing and testing therapies intended to prevent Sudden Cardiac Death.--.